March 15

GENERAL VIEW

OF THE

AGRICULTURE

OF THE

CENTRAL HIGHLANDS

OF

SCOTLAND.

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GENERAL VIEW

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CENTRAL HIGHLANDS

OF

SCOTLAND:

WITH

OBSERVATIONS ON THE MEANS OF THEIR IMPROVEMENT,

BY

Mr. MARSHALL.

DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE AND INTERNAL IMPROVEMENT.

LONDON:

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M DCC XCIV.

Jos: Banks

TO THE READER.

IT is requeſted, that this Paper may be returned to the Board of Agriculture, at its office in London, with any additional remarks and obſervations, which may occur on the peruſal, *written on the margin*, as ſoon as may be convenient.

It is hardly neceſſary to add, that this Report is, at preſent, printed and circulated, for the purpoſe merely, of procuring farther information reſpecting the Huſbandry of this diſtrict, and to enable every one to contribute his mite to the improvement of the country.

The Board has adopted the ſame plan, in regard to all the other counties in the united kingdom; and will be happy to give every aſſiſtance in its power, to any perſon, who may be deſirous of improving his breed of cattle, ſheep, &c. or of trying any uſeful experiment in huſbandry.

LONDON, FEB. 1794.

INTRODUCTION.

BEFORE I venture to offer the following pages as my tribute to the BOARD, it may be requiſite to ſhew by what means I have been enabled to give them ſuch kind of authenticity as to entitle them to acceptance.

In the ſummer of 1792, I ſpent four months in SCOTLAND, purſuing the general plan, which I have been ſeveral years engaged in, of collecting the Preſent State of the Rural Economy of Great-Britain. And, that year, I had the honour of ſpending ſome weeks at my Lord BREADALBANE's, in the centre of the diſtrict which I here deſcribe.

In April laſt, I returned to Braedalbane, where I ſpent the entire ſummer; ſtudying more maturely, the preſent ſtate of the HIGHLANDS; to enable me the better to propoſe means for their Improvement.

And, in the autumn, I made excurſions into ſome of the more recluſe parts of the diſtrict, with the intent of rendering a General View of it the more acceptable to the BOARD.

PICKERING, FEBRUARY 1794.

GENERAL.

GENERAL VIEW, &c.

THE DISTRICT.

THE HIGHLANDS OF SCOTLAND are ſeparable into four diviſions: the weſtern, as thoſe of Argyleſhire; the northern, as thoſe of Inverneſsſhire, &c.; the eaſtern, as thoſe of Brae Mar, &c. &c.; and the central or ſouthern, as thoſe of Perthſhire; which laſt diviſion gives ſubject to theſe remarks.

This diſtrict, by SITUATION, occupies the central and northern parts of Perthſhire, and may be ſaid to be ſituated in the center of the kingdom at large.

The BOUNDARIES are theſe: on the north, the diſtrict of Lochaber and Badenoch; on the weſt, Argyleſhire; on the eaſt, the county of Forfar; and on the ſouth, the diſtrict of Strathern.

The SUBDIVISIONS, or ſubordinate diſtricts, included within thoſe outlines, are:

Rannoch,	Environs of Loch Tay,
Glen Lyon,	Strath Tay,
Glen Lochy,	The Valley of Athol*,
Glen Dochart,	Glen Quech.

Its ELEVATION above the ſea is great: Loch Tay, round which it may be ſaid to lie, is eſtimated at feet above the ſea's level. The ſummit of Ben Lawers, eſteemed the ſecond mountain of Scotland, and whoſe baſe forms part of the banks of the lake, riſes to feet.

* By the VALLEY OF ATHOL I mean the lovely paſſage of Highland country between the paſs of Killicranky and Dunkeld.

The Grampian Mountains croſſing the diſtrict, and conſtituting no ſmall portion of its contents, its SURFACE is peculiarly diverſified. Ben More, Ben Lawers, and Shehallion (whoſe ſummit Dr. Maſkelyne choſe for his obſervations) riſe within it: the Farragon and other Grampian Heights, particularly thoſe of Glen Lyon, add variety and grandeur to the face of the country.

The vallies that wind among theſe mountains form the habitable parts of the diſtrict, which bear a ſmall proportion to the ſurface of the whole. Theſe vallies;—except the environs of Loch Tay; the valley below, named Strath Tay; the Valley of Athol, and the eaſt end of Loch Rannoch;—are narrow; ſeldom more than the ſides and roots of the hills; with, perhaps, a narrow chain of haughs, or river-formed lands, in the bottoms.

The culturable margins of Loch Tay are from half a mile to a mile in width, between the braes or ſides of the hills, and the lake; with lofty graſſy ſteeps on either ſide. The braes of Loch Rannoch are lower, and the margins flatter (owing it may be ſaid to the elevated ſituation of the lake itſelf): but they are much leſs productive than thoſe of Loch Tay; eſpecially on the north ſide; where the heath and natural woodineſs reach down to the water. On the ſouth ſide of Loch Rannoch, a rich margin of cultivated land, backed by natural woods, reaches the whole length, and is terminated at each end by an extent of cultivated ſurface; particularly at the eaſt end, where a ſtrath of unuſual width, and of ſome length, forms a ſtriking contraſt to the ſurrounding waſtes.

This paſſage of Highland ſurface, however, delightful as it is rendered to a ſtranger, by the recluſeneſs of its ſituation, is far exceeded, in extent and natural advantages, by Strath Tay; near whoſe ſpreading head are concentered, within the compaſs of a few miles, the churches, and their accompanying glebes, of four pariſhes, which include within their extenſive limits

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the principal part of the diſtrict under view; reaching twenty miles, or perhaps twice that diſtance, from this well-choſen center; which contained, alſo, a monaſtery, and three or four chateaus: proofs of its paſt ſuperiority as a reſidence; and, at this day, it might well be termed, in familiar language, the Garden of the Highlands.

The WATERS of the Highlands are rills, burns, rivers, and lakes,—provincially lochs. Loch Tay is the largeſt collection of water in this diſtrict: its length fifteen miles; its width a mile or more; its lateral outlines nearly parallel, and ſomewhat ſerpentine. Loch Rannoch is the next in magnitude: its length twelve miles, and its width nearly that of Loch Tay. Loch Dochart, Loch Lyon, Loch Tummel, and Loch Fruechy, are the next in ſize; and, beſides theſe, there are other ſmall lakes, or lochans: the crown of almoſt every valley, and generally, each balloch, paſs, or croſs chaſm between the glens or larger vallies, has its lochan, or a moſs, the effect of one.

The RIVER of the diſtrict is the Tay. It receives its name from the lake; which is fed by two rivers, the Lochey and the Dochart, with a multitude of burns and rills, which pour down the ſides of the mountains into this common receptacle. The Tay in its courſe joins the Lyon and the Tummel; either of them, at their reſpective junctions, being nearly equal to the Tay in thoſe places. The accumulate ſtream, however, preſerves the name of Tay; which, at Dunkeld, equals I think, in magnitude as well as majeſty, the Thames at Richmond.

The SOIL of a country whoſe ſurface is greatly diverſified, is generally found to be various. In this caſe, however, the limits of variety are narrower than they are in moſt other hilly diſtricts. There is no clay (ſtrictly ſpeaking *), and very little light ſandy ſoil, found in the Highlands.

* A ſpecies of ſilt (here termed clay) is found; but I have never ſeen any appearance of a truly tenacious clayey ſoil.

The ſoil of the vallies is pretty uniformly a brown loam, of great natural fertility (as appears moſt evidently in the flax it produces); a ſpecies of ſoil which is frequently found on the ſides of the hills to a great height: even on the tops of the lower ſtages of hill, we frequently find ſome depth of ſimilar ſoil, under the black moory earth of the heath. But, on ſo varied a ſurface, a uniformity, either of quality or depth, muſt not be expected. In the Highland vallies, unleſs on the river-formed haughs, the ſoil may be ſaid to be lodged in the pits and hollows formed by the irregular ſurface of the ſubjacent rock, or among large looſe ſtones, thrown confuſedly upon the ſurface.

On what may be termed the natural ſurface of the Highland vallies, there are no large areas of free culturable ſoil, like thoſe found in the more ſouthern parts of the iſland: It is, in general, rugged in the extreme: and even the ſcanty plots of free ſurface, which now are obſervable, have many of them been evidently cleared by the induſtry of man; for even the haughs are ſome of them ſtill found ſtrewed with large fragments of rock, and other large ſtones, torn from the mountain ſides by torrents, or thrown from them in the general formation.

The ſoil of the hills of the Highlands of Scotland, compared with that of the Morelands of Yorkſhire, has a decided preference; unleſs upon the ſummits of the higher mountains, and where the rock breaks out at the ſurface; or where this is encumbered with looſe ſtones or fragments of rock, the hills of the Highlands generally enjoying ſome portion of ſoil, or earthy ſtratum, beneath a thin coat of moor; while on the Yorkſhire hills, the moory earth, generally of greater thickneſs, lies on a dead ſand, or an infertile rubble; without any intervening ſoil.

From that ſort of general knowledge which I muſt neceſſarily have of both diſtricts, I am of opinion that the Highland hills (apart from the ſummits of the higher mountains) are of three or four fold the value of the eaſtern Morelands of Yorkſhire.

ſhire; more eſpecially of the central and ſouthern ſwells: the narrow tract which hangs to the north, between Guiſborough and Whitby, is of a better quality; very ſimilar, in ſoil, to the lower hills of the Highlands.

From this and various other inſtances which I have obſerved in different parts of the iſland, and moſt particularly in the diſtrict I am now deſcribing, it appears to be a fact, that the ſlopes of hills, whoſe inclination or aſpect is toward the north, are, at this time, more fertile than thoſe which lie with a ſouthern aſpect.

Several conjectures might be formed to account for this phenomenon. Soils lying with a ſouthern aſpect are more liable to be acted upon by an alternacy of froſt and thaw, than thoſe of a contrary aſpect; which frequently remain locked faſt and ſecure from waſte, while the other is looſened by the ſun and carried off by ſhowers, falling in the intervals of thaw. At all times, ſoils which face the ſouth are more liable to be carried away by heavy rains, which are generally impelled from the ſouth or ſouth-weſt: the exhauſtion, too, of ſouth-aſpect ſoils, ſtimulated by a more genial climature, may have been greater, during ages paſt, than thoſe which have lain with a northern aſpect. But theſe by the way: others might be adduced, were this a proper place for phyſical reſearches.

Subsoil. Where the depth of ſoil is altogether uncertain, and where there is no regularity of ſtrata near the ſurface, the ſubſoil cannot be ſpoken of with preciſion. The river-formed lands, in the bottoms of the vallies, are the only parts of the Highlands, in which a regularity of ſoil and ſubſoil is obſervable. Here the top ſoil is gravelly loam of various qualities, and the ſubſoil gravel or ſand and gravel; ſometimes of great depth, and of a fertile nature, if we may judge from the rapid growth and unuſual ſize of trees, rooted in theſe river-formed lands. All that requires to be ſaid of the ſubſtrata of the

the native ſoils is, that in general they are of a ſound, dry, abſorbent nature; with, nevertheleſs, a conſiderable proportion of cold-bottomed land, ſcattered in patches on the ſlopes, and here and there bloated plots of a boggy tendency, bearing little more than aquatic plants; yet it is obſervable, that quickſands and rotten grounds, excepting the peat moſſes of the hills, are leſs prevalent here than in moſt hilly diſtricts. There are no hidden beds of clay to check the deſcent of internal waters; the ſurfaces of ſolid rock alone, it is probable, return them to the ſurface.

QUARRIES. The uſeful foſſils of the Highlands are, 1. Limeſtone, which is found in ſufficient quantity, and of a tolerable quality, in many parts of them. 2. Slates, raiſed on the ſouthern ſkirts of this diſtrict. 3. A blue building ſtone, of a nature ſufficiently *free* to be eaſily dreſſed, is dug out of the Southern Heights; the ſurface, in moſt caſes, affording a ſufficiency of rough ſtones for ordinary buildings.

But, in the extent and magnitude of theſe mountains, no productive MINES have yet been diſcovered; at leaſt within the limits of the diſtrict under notice, excepting one of lead, on its weſtern verge. Coals have recently been ſought for by men of the firſt experience, without a probability of ſucceſs.

ROADS. There are no toll roads in the Highlands. The great public roads acroſs the diſtrict are chiefly military; formed and ſupported by Government, for the purpoſe of conveying artillery, ſtores, &c. with greater readineſs between the different forts and garriſons. Theſe roads have been conducted, originally, in a moſt injudicious manner, in ſtraight lines acroſs hills and vallies. They are now, however, under judicious management, and have already received great improvement with reſpect to line, and are moſtly well kept. The road between Blair of Athol and Dunkeld

Dunkeld is equal to the beſt roads about the ſouthern metropolis.

Even the Highland roads, which are repaired by the country, are tolerable carriage roads. Indeed the ſubſtratum being almoſt uniformly gravel or ſtone, it would be difficult to render them impaſſable. The moſt effectual way to do it, however, is practiſed. The material of repair is earth, grubbed out of the banks, or taken from the adjoining grounds, while ſtones lie an incumbrance on every ſide; and gravel, perhaps, at no great diſtance. But in the Highland practice, neither hammer nor cart is uſed in the repair of roads. It need not be added, that the firſt fall of rain waſhes away the looſe earth, leaving the ſtones it contained as ſtumbling-blocks to the traveller.

The peat roads, the bye roads of the glens, and the private roads of the tenants are execrable. The peat roads are mere gullies; which, however, previous to the ſeaſon of uſe are filled up, ſo as to be rendered paſſable to Highland horſes, with ſoil taken from the adjacent brae; which is thus ingeniouſly diveſted of the ſcanty portion with which Nature has furniſhed it.

It is obſervable, that the public roads of the Highlands, conſidering the nature of the country, are remarkably level; beyond compariſon more ſo than thoſe of Devonſhire, and other diſtricts, whoſe hills are incomparably lower. The Highland roads ſeldom croſs the hills. Nature, as it were with intention, has in moſt caſes rent the general ridge of hill between the glens or vallies, ſo as to give an eaſy paſſage to the road.

Another obſervation, equally applicable to the roads of the Highlands, and thoſe of the kingdom at large, is, that they are much more eaſily kept in repair than the roads of England,

land, where long teams are in uſe; for in Scotland, ſeldom more than one horſe is ſeen in a carriage of burden; the load of courſe is proportionably light.

Inclosures. Speaking generally of the Highlands, they may be ſaid to lie in an open ſtate. The lands of different proprietors are frequently, but not always, divided by "march dykes;" namely, ſtone walls. And farms upon the ſame property are ſometimes ſeparated, that the groups of petty tenants may interfere the leſs with each other. Alſo about reſidences, now or recently occupied, incloſures are ſometimes ſeen; but we rarely meet with farms of regularly incloſed fields, as in the ſouthern provinces; nor are the ſeparations which occur (thoſe of plantations and other kept grounds excepted) conſidered, or intended, as fences againſt ſheep, which ſtill overrun the country during the ſix months of winter, when the entire diſtrict may be ſaid to lie in the moſt perfect ſtate of common.

Produce. The natural produce of the Highlands, wild as they now appear, would be difficult to aſcertain. Tradition ſpeaks of the woodlands of the hills, in former times; and probably with ſome foundation. Timber is ſometimes found in the peat bogs; but the pieces which I have ſeen, have been of the ſmaller woods; as the birch, the alder, and the hawthorn.

In a general view, the preſent produce of the Central Highlands may be ſaid to be a ſmall proportion of arable crops; a greater proportion of green paſturage and meadow; a vaſt extent of heath, intermixed with herbage, and ſcattered with rocks and ſtones; with ſome extenſive tracts of natural and planted woods; whilſt, however, much of the country is in a manner deſtitute of Woodlands; ſeveral of the ſmaller glens may be ſaid to be without timber, and without

out a hedge or a tree to break the uniform and deſert-like nakedneſs of the country.

CLIMATURE. Conſidering the latitude between 55 and 56 degrees; the elevation, even of the vallies; and the height and nakedneſs of the hills; a ſeverity of climate might be expected. It is not however found. From what I have had an opportunity of obſerving, and from the enquiries I made with ſuch ſatisfactory information as I have no reaſon to doubt, the climate even of Braedalbane, "Braedyallapin," the Braes of Scotland, or Heights of the Highlands, is not more ſevere than that of the Morelands of Yorkſhire. The comparative ſhortneſs of day in winter is a natural diſadvantage of the Highlands, and the ſpring in general is here, perhaps, ſomewhat later; but in the quantity and continuance of ſnow, the ſeverity of froſt, the ſtrength of vegetation, and the ſeaſon of harveſt under ſimilar management, the difference, I apprehend, would be difficult to trace. Indeed the mountains of Perthſhire, under proper management, would not, I apprehend, be behind thoſe of Cornwall and Devonſhire, in the ſeaſon of corn harveſt; and comparatively with thoſe, the Central Highlands enjoy a drier harveſt, and generally a drier climature; excepting the weſtern margin of the diſtrict, which, in moiſtneſs of climate, approaches nearly to the weſtern extreme of England: even in ſo ſhort a diſtance as the length of Loch Tay, fifteen miles, the difference of climature, with reſpect to moiſtneſs, is very great.

Another variety of climature, within this diſtrict, is obſervable. Glen Quech, which lies to the ſouth of Loch Tay ſide, is later and leſs capable of maturing crops; which, in a cool backward ſeaſon, do not ripen ſo kindly as they do in Braedalbane. This may, perhaps, be accounted for in their relative elevation. The ſurface of Loch Fruechy, it is probable, is conſiderably higher than that of Loch Tay.

The tradition which ſays that Glen Quech was formerly a ſheeling to Strath Tay, is probably right. It is, in reſpect of climature, better fitted for paſturage than for arable crops; for which, nevertheleſs, the climature of Braedalbane appears to be perfectly well ſuited.

The luxuriancy of vegetation, both in the herbaceous and the ligneous tribes, is ſuch as we ſeldom meet with in the ſouthern parts of the iſland. Trees and ſhrubs of almoſt every ſpecies that I have particularly remarked, luxuriate in the Highlands of Scotland. The larches of Blair and Dunkeld, and the limes and beeches of Taymouth, evince a ſtature and a rapidity of growth, not perhaps to be equalled in the iſland *.

INHABITANTS. Before I ſpeak of eſtates and their management, it may be right to mention the tenantry, their language, habitations, food, and fuel.

The Highland character is ſtrongly marked; unuſual circumſtances having concurred in forming it. It might be wrong, however, to attempt its hiſtory here. It may be ſufficient to ſay, that out of the aggregate of thoſe circumſtances grew a ſtrongly-featured character: inquiſitive to gain information; cautious to retain it; and artful and active in applying it to advantage: features, which, though ſomewhat altered by a change of circumſtances, ſtill mark, to this day, the Highland character.

I muſt not, however, omit in this place to do juſtice to the moral character of the modern Highlander. Murder, cruelty, or even theft, is rarely heard of; nor are riotings, drunkenneſs, or any kind of debaucheries, at preſent prevalent among them; comparatively, at leaſt, with other diſtricts of the iſland. This, in my mind, is a proof, that whatever irregularities they may have been led to, by the nature of their former government and purſuits, they did

* Owing, *perhaps*, to the length of day in the ſeaſon of vegetation.

not

not proceed from a natural depravity of moral character, which could not have been completely corrected in ſo ſhort a ſpace of time, as that which has elapſed ſince the ſuppreſſion of feudal authorities. Moſt happy circumſtance to the Highlands! and fortunate for the united kingdom at large.

The eſtabliſhed LANGUAGE of the Highlands is the Erſe; a dialect of the Gaelic; which is probably among the moſt ancient of the living languages of Europe. From the names of moſt places in the Highlands being accurately defined by the circumſtances of ſituation, the Erſe may ſeem to have been the language of its firſt ſettlers: but rather, perhaps, of a colony from an enlightened country, ſuppreſſing the language of former poſſeſſors, and eſtabliſhing their own; there being ſome few names of places which cannot, I underſtand, be derived from the Gaelic tongue.

The Engliſh language, however, is now working its way into the moſt inward receſſes of the Highlands, and will in a few years, probably, ſuperſede the uſe of the Erſe: a circumſtance, which, whenever it may take place, will be fortunate for the country; as it will aſſimilate it more intimately with the neighbouring diſtricts. It is now univerſally taught in the ſchools of the Central Highlands. Hence it is ſpoken in greater purity here than in the Lowland diſtricts. From the intercourſe, however, which the Highlanders have with thoſe diſtricts, and from the teachers having the Lowland accent, the tone and many of the provincialiſms of the Lowlands are in uſe.

HABITATIONS. Formerly ſod huts were the common habitations of the tenantry of the Central Highlands, and they are ſtill in uſe in the more northern diſtricts. Thoſe huts were built with ſods, or thick turf, taken from the paſture lands, and having remained a few years in the capacity of walls, were pulled down and ſpread over the arable fields

as manure; another ſquare of rock being laid bare, and another ſet of ſods piled up for the ſame purpoſe. The materials of the roof were uſed, and ſtill are uſed, in the ſame intention; and, perhaps, the roof itſelf, in places where wood was plentiful and peats difficult to procure, was pulled to pieces for fuel, and a new one (culled from the neareſt wood at the tenant's pleaſure) ſet up, in the form of a roof, to dry, for a future ſtore of fuel.

At preſent, the building material is ſtone; but no cement, as yet, is in uſe, except in particular caſes. The houſes and office buildings of ordinary farmers are of dry ſtone; the dwelling-houſe being ſtopt on the inſide with loam, to prevent the wind from blowing through the walls; which are ſeldom more than five or ſix feet high; perhaps without glaſs in the windows *, and with door-ways ſo low, that even a middle-ſized man muſt ſtoop, not into the houſe only, but into the barn. The roof is ſet on with "couples," or large principal rafters, ſtept in the walls two or three feet above the foundation; generally upon large ſtones ſet to receive their feet. Upon theſe couples, lines of "pantrees," or purlines are fixed, and, reſting on theſe, rough boughs (ſtript, however, of the leaves and ſmaller twigs) are laid, rafterwiſe, and termed "cabbers †:" upon theſe, "divot," or thin turf, laid on in the manner of ſlates; and upon this ſod covering, a coat of thatch; compoſed of ſtraw, ruſhes, heather, or fern; the laſt being drawn up by the roots, or cut cloſe to the ground, in the month of October, and laid on with the root ends outward; making a

* Now more commonly the huts of the Cottars; ſome of them wretched habitations indeed.

† Formerly the Cabbers were wattled or interwoven with other rods or twigs, ſo as to be proof againſt a ſudden aſſault; which, in times of retaliations, was not unfrequently made through the roof.

durable

durable thatch. The gables and the ridge are loaded with "feal," thick ſods taken from the deepeſt beſt ſoil, no matter where: another vile practice.

Food. A vegetable diet, with milk and its productions, prevails throughout the Highlands. Animal food is rarely taſted by the lower order of tenantry. Oatmeal is the great ſupport and ſtrength of the Highlander, and is, probably, the moſt ſubſtantial of vegetable foods. In ſupporting ſevere bodily exerciſe, it is found to be much ſuperior to wheat flour; which, at preſent, makes no part of the Highlander's food. "Beer"—big—or four-rowed barley, nevertheleſs, enters largely into their diet; eſpecially in bread: peas, too, are eaten in a ſimilar ſhape, namely, thin flaccid cakes, called bannocks; the ordinary bread, even of the gentry, or lairds. Of late, potatoes have become a principal food of the common people, eſpecially in winter; and are conſidered as the greateſt bleſſing that modern times have beſtowed on the country; in having, it is probable, more than once, ſaved it from the miſeries of famine.

Before the introduction of this root, ineſtimable in a country overſtocked with inhabitants, famines were frequent in the Highlands; the inhabitants having ſometimes had recourſe to the blood of cattle, drawn for the purpoſe of prolonging a wretched exiſtence until the return of harveſt. Even ſince that happy era, a year of ſcarcity is the cauſe of much diſtreſs; for ſtill the Central Highlands do not produce a ſufficient ſupply of vegetable food for their numerous inhabitants. Meal is every year, I believe, brought into it, and ſome years in conſiderable quantities; and this notwithſtanding the country, if fully reclaimed and properly cultivated, would, I am of opinion, produce more than enough for the preſent or a greater number of inhabitants.

FUEL. Formerly turf, or the parings of heathy and other ſurfaces, made a part, at leaſt, of the fuel of Highlanders, and ſtill is in uſe in ſome parts; but reſtrictions have been wiſely impoſed in others. At preſent, peat may be ſaid to be the fuel of the Highlands, and in much probability will remain ſuch during ages to come. It has been mentioned, that attempts have recently been made to diſcover coals, in this diſtrict, without any ſhare of ſucceſs: not even a ſign or ſymptom, I believe, has yet been detected within it. Even ſuppoſing either the hills or the vallies to contain coals at a moderate depth, the hardneſs and uniformity of the ſubſtratum, an adamantine maſs of whinſtone, would, it is probable, render the labour of raiſing them too great to repay the expences. Hence, unleſs inland navigation ſhould climb into theſe elevated regions, we may venture to ſay, that on peats and wood the hopes of the Highlander muſt reſt, with reſpect to his ſupply of fuel; and, of courſe, it behoves the proprietors of Highland eſtates to attend to the moſſes, or plant coppice wood, to give a permanent ſupply to the exhauſtion.

ESTATES.

THE ANCIENT DIVISIONS of this diſtrict appear to have been baronies; which were ſubdivided into mark lands; by which the ceſs, or public tax, was regulated.

MODERN ESTATES conſiſt of ſuperiorities, or baronial rights, reſerved under the name of feu duties; or of the groſs poſſeſſion of landed property, which is either held in fee ſimple, or in feu from a ſuperior.

The

The SIZE OF ESTATES in the Highlands is of the larger caſt, and ſome of them very entire; particularly that of Braedalbane *. The Athol eſtate, too, is conſiderable, within this diſtrict; and Sir John Menzies poſſeſſes a large tract of country, ſtretching acroſs the central parts of it. Beſide theſe larger poſſeſſions, ſeveral country gentlemen, ſome of them of conſiderable property, have reſidences; and a few lairds, or ſmaller barons or proprietors, are ſcattered in different parts of it.

The BOUNDARIES OF ESTATES, provincially marches, are adapted to the nature of the country and the extenſiveneſs of private properties. In the vallies, eſtates are generally ſeparated by "march dykes," or ſubſtantial ſtone walls; or by a river, or a large burn. The lower hills, too, are ſometimes diſſected by walls, where burns or other natural boundaries do not occur; but more generally by boundary ſtones, ſet up ſingly, or piled in heaps—provincially "carns." The higher mountains, I believe, are divided in ſimilar ways; with the addition of another ſpecies of boundary line, which in a leſs wild and more valuable country would not have been thought of or readily adopted, though perfectly natural and permanent. Where two proprietors have oppoſite ſides of the ſame ridge, or general line of mountain, as frequently happens between parallel glens, their properties are determined by the atmoſphere; by "wind and water marches;" the line of partition lying between expoſure and ſhelter; and is ſtill more nicely marked by the tendency of rain water.

* Reaching nearly acroſs the diſtrict, from eaſt to weſt. Lord Breadalbane's conjoined eſtates of Perthſhire and Argyleſhire exceed, perhaps, in extent and contiguity taken jointly, the landed property of any other ſubject in Europe.

MANAGEMENT

MANAGEMENT OF ESTATES.

UNDER THE FEUDAL SYSTEM, the management of eſtates, as landed property, could be but little attended to : the poſſeſſion itſelf depended, too often, on force of arms, rather than on legal right ; and it was more neceſſary to train the tenantry to war, than to rural improvements.

On the large eſtates of the chieftains, an officer, under the name of CHAMBERLAIN, was at once miniſter, general, and manager of the eſtate.

Under theſe circumſtances, and more particularly in the times of diſturbance, the tenants might be ſaid to be in ful poſſeſſion of their reſpective holdings : neither their chieftain nor his chamberlain dared to remove them, nor even to check their evil practices ;—ſuch as cutting down timber and other wood ; not only for buildings and implements, but for its bark (it being *recently* the practice for every man to tan leather for his own conſumption), leaving the diſbarked wood, perhaps, to rot in the place of its growth : circumſtances in themſelves ſufficient to account for the decay of foreſts, and the preſent nakedneſs of the country, in places remote from the reſidences of chieftains ; where reſpect, if not fear, might check ſuch baneful depredations.

Nor, under theſe circumſtances, could any plan of improvement be proſecuted, even during times of greater tranquillity ; for the length of the day of peace was uncertain ; and a good ſoldier, or a fool-hardy deſperado, was of more value than a good huſbandman. Indeed, the works of agriculture, in thoſe warlike times, were neceſſarily carried on, in great meaſure, by the women : a circumſtance which accounts for their preſent habits of labour and induſtry.

And another neceſſary conſequence of thoſe extraordinary circumſtances was ſtill more ſubverſive of improvements, and more laſting in its effects. The farms were divided and ſub-

divided,

divided, to make room for a greater number of ſoldiers, and were thus frittered down to the atoms in which they are now found; and the country burdened with a load of tenantry, which has hitherto been conſidered as a bar, even under a change of circumſtances, to the proſecution of any rational plan of management.

The larger eſtates are divided into OFFICIARIES; each conſiſting of an ancient barony, or of an arbitrary modern diviſion, better ſuited to the preſent circumſtances of the eſtate.

On the banks of Loch Tay, theſe officiaries contain from one to three ſquare miles of valley lands each; with their proportions of hill; compriſing from ten to twenty "towns" or farms; each farm, or petty townſhip, being ſubdivided into farmlets; generally from two to ſix or eight in number; or, in ſome few inſtances, the farms remain entire, or have been brought back to their original entirety.

In each of theſe officiaries reſides a GROUND OFFICER, generally a principal tenant; whoſe office is ſomewhat ſimilar to that of the bailiff of an Engliſh manor, but more extenſive and more uſeful: he not only diſtributes orders or notices, from the lord or the factor, to the tenants; but ſees the ſervices performed (from which he is himſelf exempt), the roads kept in repair, the removal of tenants, the ſettling of diſputes, the forwarding of diſpatches, &c. &c. &c.

Alſo, in each officiary are BIRLEYMEN, ſworn appraiſers, or valuers; who are called in by the ground officer (at the requeſt of the manager) to ſettle diſputes between the landlord and the tenants, or between tenant and tenant.

Theſe petty inqueſts are extremely convenient upon an extenſive eſtate, and might be well introduced (in their preſent or in an improved form) upon the larger eſtates of the iſland in general. The ſeveral officers, being reſident within their reſpective officiaries, know the parties and the matters

in diſpute more intimately than any large proprietor, or any agent of a large eſtate, poſſibly can: and if a manager diſtinguiſh, properly, between the uſeful information they are capable of giving him, and the partialities which they muſt neceſſarily form among the tenantry of their reſpective diſtricts, he may, on many occaſions, render them highly beneficial to the due performance of his charge; which, where the happineſs of thouſands depends more or leſs on his conduct, is a thing of no light importance.

TENANCY. The nature of the hold or occupancy of the Highland tenants, is, principally, that of tenant at will, holding from year to year. If leaſes, or tacks, as they are called, be granted for a term of years, the term is generally one or more *nineteen years*: a number which one would think nothing but caprice could have rendered cuſtomary. Life leaſes, too, are granted, or have been granted, in Scotland; perhaps for three lives and a nineteen years; or three nineteen years and a life.

RENT. The rate of rent varies much on different eſtates. The ſmaller eſtates may have been raiſed to ſomething near their rental value: but the larger, I believe, remain at rents much below the real value of their reſpective ſoils; even when the diſadvantages of ſituation and climature are taken into the eſtimate. Nevertheleſs it appears equally evident, that, while the preſent ſtate of things remains; while the holdings remain ſo ſmall, ſo inconvenient, ſo expoſed, and ſo uncertain as to poſſeſſion, as they are at preſent, eſtates in general may be ſaid to be at rack rent. No man could wiſh to ſee the occupiers of lands in a lower ſtate than are at preſent the ſmaller tenants of the Highlands: indeed, were their holdings free, they could not, through their means, enjoy the common comforts of life equally with the day-labourers of other diſtricts.

Formerly,

Formerly, the rents of lands were paid in kind; as grain, poultry, &c.; and ſtill what are called "victual, or rents in "grain," are paid: but "money rents" are becoming yearly more prevalent.

WOODLANDS.

IN GIVING A GENERAL deſcription of the diſtrict, I mentioned the preſent ſtate of its woodlands; and, in ſketching the ancient management of eſtates, I have in ſome meaſure accounted for the decay of the ancient foreſts, and the preſent nakedneſs of the country with reſpect to wood; except about principal reſidences, where well-kept woodlands ſtill remain; and, in the parts of eſtates remote from them, woody waſtes, or woodlands going to decay, are not unfrequently obſervable. In theſe woods it has been the practice, within the memory of middle-aged men of this day, for the tenants to cut, without reſtraint or with impunity, not only ſuch timber as they wanted for buildings and improvements, &c. but alſo for bark, for the purpoſes of tanning *.

Of late years, however, the ſpirit of planting and the preſervation of natural woodlands have gone forth; and upon moſt eſtates, I believe, the ground officer, or other wood-

* Tradition ſays, the ancient woods were cut down for the purpoſe of deſtroying more readily the wolves with which the country was formerly infeſted. It is probable, that contending clans might have found it convenient to deſtroy each other's ſtrong holds; or thoſe woods might have been harbours for lawleſs banditti, the dregs of petty warfare; and, laſtly, hurricanes may have aſſiſted the devaſtation.

keeper, deals out to the tenants the requiſite ſupply ; either free of coſt, or at a low price : while in ſome inſtances the riſing coppices are kept with great care, and have been long brought into a courſe of cuttings ; eſpecially in the valley of Athol, where oak coppice makes no ſmall proportion of the annual produce of the lands.

PLANTED WOODS. The ſpirit of planting, which roſe upon the wing ſome twenty years ago in Scotland, has been ſuch as no other country, perhaps, ever experienced. There are ſeveral men who can boaſt of their hundreds, ſome few, perhaps, of their thouſands, of acres planted by themſelves. And there are ſome ſubſtantial proofs of a ſimilar ſpirit having gone forth previouſly to that era ; namely, about fifty years ago ; and two notable ones in this diſtrict. The plantations of Blair and Dunkeld by the late Dukes of Athol, and thoſe of Taymouth by the late Earl of Breadalbane, while they evince the ſpirit and judgment of their reſpective deſigners, do honour to the country in which they have been executed. Plantations, perhaps, were never made with better ſucceſs. There are larches, in the former inſtance, which, at five feet high, girted, in 1792, full eight feet, yet had been planted no more than fifty-four years ; and, in the latter inſtance, a ſimilar luxuriance of growth has taken place in various ſpecies of trees.

The FENCES of the Highlands may be ſaid to be univerſally ſtone walls ; notwithſtanding the hawthorn flouriſhes, in a peculiar manner, in almoſt every ſituation. Theſe walls are generally of unuſual ſtrength, and raiſed at a great expence ; as forty to ſixty pounds a mile ; notwithſtanding the abundance of ſurface ſtones. Croſs fences of incloſures are ſometimes ſingle, and open almoſt as fret-work, permitting the winds to paſs through them ; yet are a more effectual fence againſt ſheep than double walls, which they readily ſcale with ſafety,

ſafety, and without apprehenſion; while the tottering appearance of thoſe, frequently deters them from the attempt. As a boundary-mark between paſture grounds and corn, a much more ſimple wall, or dwarf fence, is often put; namely, looſe ſtones, piled the height of the knee, to prevent the tended cattle from ſtepping into the corn, when they eſcape the eye of their keeper. Nevertheleſs, a moſt effective fence is ſometimes placed round plantations; namely, a ſtout wall; perhaps three feet at the baſe, and about four feet high: upon this, two courſes of thick ſods are put as coping; into which ſhort ſtakes are driven, leaning ſomewhat outward, and their tops bound with edders, without any filling. The openneſs gives paſſage to the winds and to ſnow, while the attempts of ſheep are effectually baffled, unleſs when ſnow is much drifted againſt the wall.

FARMS.

THE SPECIES OF FARM, excepting the modern ſheep farm, is uniformly one and the ſame, I believe, throughout the Highlands. Not the larger farms only, but each ſubdiviſion, though ever ſo minute; whether "plowgait," "half plow," or "horſe gang;" has its pittance of hill and vale, and its ſhare of each deſcription of land; as arable, meadow, green paſture, and muir.

To give a general idea of a Highland farm, it will be requiſite to mention the ancient diſtribution of lands, which may be ſaid to remain unaltered to the preſent day, excepting a few modern improvements, and except where modern ſheep farms have gained a footing.

The

The vallies, eſpecially the larger ones, are ſeparated from the hills by a ſtone fence, called the "head dyke" (or by an imaginary line of partition anſwering to it), running along the brae or ſlope; and generally on the upper ſide of it; but higher or lower, according to the ſoil and produce; the more productive, or the greener ſurface, being included within it; the black heathy brows of the hills being left out as "muir."

The valley lands, contained within thoſe head dykes, are laid out, or have grown fortuitouſly, into arable land, meadow, and paſture.

The ARABLE LANDS have a two-fold diſtinction: a portion of them laying near the "ſteading" or homeſtall, and generally the beſt ſoiled part, is termed INFIELD; is kept, and has been time immemorially kept, in tillage; and upon this deſcription of lands, all the manure which the country has afforded for ages, together with earth and thatch of demoliſhed hut, &c. &c. has been laid. The other portion of the arable lands, namely, ſuch plots of the bottoms, or lower parts of the vallies, as are ſufficiently level, and ſufficiently free from wood and ſtones, to be plowed, are termed OUTFIELD, and are kept in corn and natural ley or weedy waſtes alternately, without receiving the ſmalleſt return of manure; except that, formerly, cattle were folded upon theſe outfield lands; and, more recently, lime has been, in ſome inſtances, uſed upon them.

Such patches as lie intermixed among plots, or "fields," of arable land, and are either too wet, too woody, or too ſtoney, to be plowed, are termed MEADOW, and are kept perpetually under the ſithe and ſickle, for a ſcanty ſupply of hay; being every year ſhaven to the quick, and ſeldom, if ever, manured.

The faces of the braes, the roots of the hills, the woody or rough ſtoney waſtes of the bottom; with a ſmall plot near the houſe, termed "door land" (for baiting horſes upon at meal

meal times, teddering a cow, &c.), are kept as PASTURE, for cattle in ſummer, and ſheep in winter; the ſheep, and generally the horſes, being kept, during ſummer, above the head dyke, upon the muir lands.

Thoſe hill lands, or MUIR, are laid out, or diſtributed, as a train of fortuitous circumſtances, as tumults and retaliation, as connexions, intrigue, and accommodation, have brought about.

In general, each farm reaches acroſs half the valley, namely, from the river or burn to the head dyke, and has generally ſome portion of muir immediately above it, contiguous to the green paſture grounds. In ſome caſes, however, theſe contiguous muirs are inconſiderable; and in others, are in a ſtate of commonage, between two or more farms; and are always ſo among the petty tenants of the ſame farm.

When the contiguous muir is not ſufficient for the maintenance of the hill ſtock in ſummer, a portion of hill, lying perhaps ſeveral miles from the reſidence of the occupier, and perhaps common to the ſtock of ſeveral farms, makes up the deficiency.

In theſe DETACHED GRAZINGS and diſtant ſheelings are involved a train of evils: the drift of the ſtock; the driving acroſs intermediate grazings; the inconveniencies and danger of having ſtock at a diſtance; the never-ceaſing diſputes with the occupiers of the ſurrounding lands; the conſequent hounding and harraſſing of ſtock; and, by the over-ſtocking of parts, rendering it impracticable for more judicious managers to ſtock with diſcretion, the ſtarving ſtock over-running, by day or by night, the kept grounds of ſuch managers. The conſequence, with reſpect to ſheep at leaſt, is, the poverty and death of part, and, I am afraid we may add, the unprofitableneſs of the whole; I mean, of the petty flocks of the ſmaller tenantry.

Under

Under this deſcription of farm falls the principal part of the Central Highlands. Of late, however, the ſyſtem of SHEEP-FARMING has gained ſome footing; but is yet confined to the heads of glens, where the vallies are narrow, and the hill lands extenſive; and even in thoſe ſituations it is not generally introduced. In this caſe, arable and meadow lands are not requiſite; an extent of hills, with a ſheltered valley or cove, for a wintering ground, conſtitute the Highland ſheep-farm, with generally, however, arable and meadow land enough for a few cows; and a graſs incloſure for rams, in the early part of the rutting ſeaſon.

Hence it may be ſaid, the prevailing farm of the Highlands, that which may be called the genuine Highland farm of the preſent time and of paſt ages, is of a mixed nature, and comprizes every deſcription of land; hill and valley—arable, meadow, and paſture.

The SIZE of the Highland farms is of the very ſmalleſt caſt, ſome few excepted; as thoſe of large proprietors, their factors, &c. Even thoſe of the tenantry, which are emphatically termed farms, contain only a ſmall quantity of cultivated land; and their ſubdiviſions are many of them very inconſiderable.

On the ſides of Loch Tay, the nominal farms or petty townſhips contain, on a par, about twenty acres of infield—fifteen acres of outfield—ten acres of meadow—thirty-five acres of green paſture—with about ten acres of woody waſte—in all, about ninety acres within the head dyke, and about two hundred and fifty acres of muir or hill lands.

The ſubdiviſions or real holdings of the preſent tenants do not contain, *on a par*, more than five acres of infield, four acres of outfield, two and a half acres of meadow, ten acres of paſture, two and a half of woody waſte, with about ſeventy-five acres of muir: and, of courſe, the holdings of many of the ſmaller tenants are ſtill more narrowly circumſcribed.

Yet

Yet even theſe ſubdiviſions are diminiſhed by a ſtill lower order of occupiers (if ſuch they may be deemed) under the name of Acre-men, or CROFTERS. This extraordinary claſs of cultivators appear to have been quartered upon the tenantry, after the farms were ſplit down into their ſmalleſt ſize; the crofters being a ſpecies of ſubtenants on the farms to which they are reſpectively attached. Beſides one or two "cows holdings," and the paſturage of three or four ſheep, they have a few acres of infield land, (but no outfield or muir) which the tenant is obliged to cultivate; and they, in return, perform to him certain ſervices; as the works of harveſt and the caſting of peats; the tenant fetching home the crofters ſhare.

And ſtill below theſe rank the COTTERS, anſwering nearly to the cottagers of the ſouthern provinces; except that, in the Highlands, they are attached, like the crofters, to the tenant, or joint-tenants, on whoſe farm they reſide; receiving aſſiſtance and returning for it ſervices.

MANAGEMENT OF FARMS.

BEFORE I ſpeak of the ſtate of huſbandry in the Highlands, it will be proper to mention ſome introductory particulars, as,

Huſbandmen, Beaſts of Draught,
Work-people, Implements;

and to give ſome account of the manures in uſe.

HUSBANDMEN. On ſuch a ſmall ſcale, and with ſuch diſadvantages as have been deſcribed in the laſt ſection, who but minor huſbandmen would work and ſtarve? The few larger holders which have alſo been mentioned above, are, however, well informed, and, under proper encouragement, would become valuable men to the country: I could name

ſome few on the eſtate of Braedalbane, who would do credit to any diſtrict; and one, at leaſt, in Strath Tay, who, under due encouragement, already does the Highlands ample credit. Among the ſheep farmers, or ſtore maſters, as they are called, a ſuperior kind of intelligence is obſervable; ſeveral of them are well educated, and well informed.

The WORK-PEOPLE of the Highlands are the farmers themſelves, their wives and children; and, in addition to theſe, if required, yearly ſervants of both ſexes. Day-labourers are unknown on the Highland farms; though, about the caſtles of chieftains and men of fortune, they are found in ſufficient abundance: and, in the Lowlands, they will do the meaneſt drudgery, for the meaneſt tenants; yet cannot brook the idea of working for their neighbours: they will rather loiter away the winter in idleneſs, and ſtarve on the pittance they have ſaved in their ſummer's excurſion.

Horſes have ever been the BEAST OF DRAUGHT in this diſtrict; where oxen have never, I underſtand, been worked, in the ordinary practice of farmers. Formerly, four horſes a-breaſt was the plow team of the Highlands, and is ſtill in uſe; though nearly ſuperſeded by that of two horſes with reins; now the almoſt univerſal plow team of the northern provinces. But the old breed of Highland horſes are found too light for this purpoſe: hence the introduction of the Lowland horſes, or a croſs between theſe and the old breed: the modern plow team has been in uſe, in Braedalbane, twelve or fifteen years.

The IMPLEMENTS of the Highlands are ſtill ſimple and rude; even the plow, though now worked with two horſes, has not yet acquired its modern form; at leaſt, not univerſally among tenants; it appears, however, to be daily growing into uſe.

An implement ſtill more rude and ſimple than the Highland plow is the ſliding cart, or "ſlipe;" which, for the works of harveſt,

harveſt, is now in common uſe. It is formed of two long poles, framed together ſhaft-wiſe. The ſmaller ends are faſtened to the hames, in the manner of other ſhafts, the larger ends ſliding upon the ground.

From this ſimpleſt of implements, the preſent rude cart of the Highlands may ſtill be traced (eſpecially in the north of Scotland) through the ſeveral intervening ſtages; and, in the preſent one-horſe cart of the Lowlands, it may be ſaid to have reached its ultimate improvement.

The waggon, or four-wheeled carriage of burden, is unknown in the Highlands; yet it is peculiarly adapted to a hilly country. In the Morelands of Yorkſhire, a country very much reſembling the Highlands of Scotland, there is not, generally ſpeaking, a cart; which is conſidered as an aukward and worthleſs implement among ſteep roads; being diſtreſſing to the ſhaft-horſe, in going up as well as in coming down a hill.

MANURES. Lime is the only factitious or extraneous manure I have ſeen in uſe*. On the banks of Loch Tay, and in the neighbouring glens, it has been uſed many years; and with an effect which has deterred ſome men from the farther uſe of it. The practice has been, and ſtill is, to ſpread it upon outfield leys, previouſly to their being broken up for oats; and to crop them repeatedly with that exhauſting grain, until they refuſe to yield any profitable return; and, after they have been permitted to lie a few years in a ſtate of waſte, to repeat the exhauſtion: thus continuing to reduce the ſoil, by this ingenious proceſs, without adminiſtering to it the leaſt relief, until it is rendered incapable of production; even with the aſſiſtance of calcareous earth; with which, perhaps, being already ſufficiently ſaturated, its effect ceaſes.

* Excepting ſome ſmall collections of ſhell marl; a ſpecies of manure, by which many diſtricts of Scotland profit much.

This intereſting fact appears to be proved in the practice of different men, and ſerves to ſhew that ſome other ingredient than calcareous earth is requiſite to the perpetual productiveneſs of ſoils; and, of courſe, that, whoever by lime furniſhes the ſoil with ſuch a ſupply of calcareous earth as to induce it to throw out ſuperior crops, ought certainly to return ſome ſhare of the produce; or to repleniſh it, in due time, with ſome other vegetable or animal matter.

In burning lime, in the Highlands, the chief fuel in uſe is peat; a weak ineffectual firing. It is uſual to ſlake the lime as it is drawn out of the kiln, ſhake it in a ſieve, and return the numerous unreduced cores, to paſs through the fire a ſecond time *. Blocks of wood, and eſpecially the large roots of trees, are frequently thrown in with the peats, to ſtrengthen the fire; placing the fuel and the ſtones layer over layer, as in the uſe of coals; making the ſtrata of fuel thick, proportionably to its ſtrength. The Highland kiln, too, tends to the inefficacy of the fuel: it is too ſhallow, and ſpreads too wide at the top; ſuffering the fire to eſcape before it has fulfilled its intention. It is ſometimes built of ſods, ſet upon the ſurface of the ground from whence, perhaps, the ſods were taken, and this perhaps the beſt ſoiled part of the farm: having, however, performed their office as walls of the kiln, they are themſelves carried to the field as manure. From theſe temporary ſod kilns, perhaps, were copied the ſhallowneſs and width of the preſent ſtone kilns of the diſtrict †.

In the diſtrict of Rannoch, the late Lord Kaims (to whoſe extraordinary abilities and public ſpirit Scotland owes very

* This practice, when the lime is intended for the uſe of building, appears to be very wrong; eſpecially when it is ſuffered to lie in that powdered ſtate ſeveral months before it be uſed.

† On the ſouthern ſkirts of this diſtrict, I have ſeen the lime of Sunderland (near Newcaſtle). This lime is brought by water to Perth, and from thence, near twenty miles, by land carriage.

much)

much) with the other commiſſioners of the forfeited eſtates, erected a mill, for the grinding of Limeſtone for manure; but it was unfortunately carried away by the burn which had worked it; and I have not been able to aſcertain the real merit of the plan. The people of the country ſpeak rather unfavourably of it; but it was a new thing, and, in a country ſtrongly attached to old cuſtoms, this was enough to ſuppreſs any merits it might have, were they even conſiderable.

STATE OF HUSBANDRY. After the curſory view which I took of the Highlands in the ſummer of 1792, I left it with ideas rather favourable to its ſtate of cultivation. The corn, before I reached this part of the Highlands, had grown tall enough to hide the weeds; the braes were green, and through the moiſtneſs of the ſeaſon full of graſs; the ſheep were upon the hills; and the cattle, which I ſaw, were full of condition.

But, in the more deliberate ſurvey of laſt year, freſh facts aroſe; eſpecially in the ſpring ſeaſon. In the latter end of April, and the early part of May, the country exhibited the moſt deſolate and diſtreſſing picture. Not the fainteſt appearance of greenneſs, nor even a blade of paſturable herbage to be detected, except in the parks and paddocks of men of fortune, or the farms of the few ſuperior managers who have been mentioned; and there the clover and ray-graſs were already in full bite (moſt intereſting fact!); while the country at large, under the old ſyſtem of management, lay a mere waſte; nothing to be ſeen but ſtones and dry blades of couch graſs or other pallid remains of unpaſturable herbage; the paſture and meadow lands gnawed to the quick, and ſtrewed with the dead carcaſes of ſheep, lying a diſgrace and a nuiſance to the country; their wool waſting

away

away with their carcaſes, as if their owners were aſhamed to claim it. The cattle, too, were in a ſtarving ſtate; ſome actually ſtarved; others barely able to crawl out of the way of the paſſenger; calves, and perhaps a few young ſheep nibbling off the ſeedling blades of oats; and the moſt active of the cattle and ſheep running after the plow and harrow, ſtriving for the roots of weeds turned up; their almoſt only means of ſubſiſtence. But the ſeaſon had been more than uſually ſevere, and the deaths and diſtreſſes ſomewhat more than is uſually experienced.

In the beginning of July, the face of the country was not leſs ſtriking than it had been in the early part of May. The colour of it had changed from the ſickly hue which has been deſcribed, to the moſt vivid aſſemblage of tints: beautiful to the traveller, but deſtructive to the occupier, and diſgraceful to the country. Oats, univerſally, were hid under a canopy of weeds in blow; the wild muſtard, and the corn marygold predominant; the ſpurrey, the corn ſcabious, and the thiſtle were next in prevalency; with a numerous tribe of minor weeds. The every year lands (as they are called) of Glouceſter may be ſaid to be clean, compared with thoſe of Braedalbane. Some of the oats, it is true, overcame the weeds, and, in their turn, overtopped them; thus gaining the appearance of a tolerable crop, while others were chiefly or wholly ſmothered beneath the ripening crop of weeds; and the only circumſtance which ſaved the beer from the ſame diſgrace was its being ſown a month too late. Huſbandry, perhaps, never appeared in a lower ſtate, than that in which it is here found; I mean among the ſmaller tenantry of the Highland eſtates: a few of the larger farms, even of the ordinary tenants, are exceptions from this prevalent diſgrace;

grace; nevertheleſs, nine-tenths of the tenanted lands may be ſaid to be involved in it.

A minute detail of ſuch management would be ill placed in this Report; it belongs rather to the Antiquary to record that ſuch a ſtate of huſbandry once exiſted; nevertheleſs, as a ground-work of improvement, it may be right to adduce a few leading facts.

The ARABLE CROPS are chiefly oats and "beer," or big; namely, the ſquare-eared or four-rowed Barley. Wheat is not attempted. Some peas, however, have, I believe, been always grown; (chiefly for their halm as winter fodder for horſes) and, of late years, potatoes, and flax.

The TILLAGE of the Highlands is intolerable; no fallow; the ſoil plowed once for oats, and twice or thrice for beer (the firſt a half plowing; provincially, and properly enough, "ribbing"). Potatoes are cultivated in rows, and moſtly with the plow, in the North of England and Lowlands manner. I have ſeen a ſmall patch planted on unplowed ground, in ſhallow trenches or grooves made with a "Highland ſpade;" a rude implement with which the balks and interſpaces between ſtones, &c. which the plow cannot move, are turned over; the ground, it may be ſaid, is never completely ſtirred; the ſoil is rarely free from hidden ſtones; beſides, the teams are weak, and the plowmen bad; leaning the plow too much to the left, or unplowed ground; ſcratching the ſurface, rather than plowing.

Nothing ſeems more extraordinary in the Highland practice, to a ſtranger, than the TIME OF SOWING. In a country where the climate is ſpoken of as its greateſt diſadvantage, one would reaſonably expect early ſowing, to endeavour to counteract this natural defect; or, in other words, to prevent the evils of a late harveſt; one of the loudeſt

complaints

complaints of the country. Nevertheleſs, beer, which might be ſown, with reſpect to climate, the latter end of April or the beginning of May, is, in the ordinary practice of the country, ſown the latter end of May, or in the beginning, or perhaps the middle of June; at leaſt a month later than in England. The only reaſon I have ever heard given for this cuſtom is, that the beer, if ſown early, would, like the oats, be ſmothered in weeds; and, under the ordinary management of the ſmaller tenantry, under which the land has been cropped alternately with oats and beer, for ages, without reſpite, and without an intervening fallow or fallow crop, the reaſoning may be good; there needs not, however, a better argument to ſhow, that the preſent ſyſtem of management is improper, and ought to be changed.

The SUMMER MANAGEMENT OF CROPS is chiefly confined to flax and potatoes. "Lint" is weeded with great care by women, on their knees or haunches, picking out every weed. Potatoes too are kept tolerably clean; and the grain crops have ſometimes the thiſtles picked out. Nevertheleſs, taking one year with another, the quantity of weed ſeeds muſt be nearly equal to that of the grain produced. In ſome of the oats crops of 1793, the proportion of produce muſt have been greatly on the ſide of weeds.

The buſineſs of HARVEST is well conducted; the women, in this, as in their other employments, are attentive and laborious. Oats and beer are univerſally "ſhorn" with ſickles, and moſtly by women; who cut low, level, and clean to a degree I have never before obſerved. Theſe crops are harveſted, either in ſheaves and ſtooks of twelve, two of them being uſed as hoods, in the ordinary manner; or in "gaits," namely ſingle ſheaves tied near the top, and ſet upon their

buts

buts, ſpread abroad for the purpoſe of giving them the requiſite firmneſs; agreeably to the practice of the North of England.

In the harveſting of LINT, one particular is obſervable: the capſules—provincially bolls or "bows"—are pulled off, in the field, previouſly to the ſtems being carried to the ſteeping pit. This operation is performed by means of a ſort of large wooden comb, fixed in a box; the upper parts of the lint being drawn through the teeth, as through a flax-dreſſer's tool, the bolls dropping into the box. Theſe bolls are dried, and laid up as winter provender for cows; or, if the ſeeds be ſufficiently matured, they are ſold to the oil mills.

Lint is now univerſally dreſſed with mills, which have been ſeveral years introduced into the Highlands. Indeed, in the management of the flax crop, throughout, the Highlands may be ſaid to excel. Its culture is altogether modern; the beſt mode of management was, therefore, the more eaſily introduced, as there were no prejudices to be got rid of.

GRASSLAND MANAGEMENT. The nature of the *meadow lands* has been mentioned under the diviſion Farms. Their preſent ſtate is nearly that in which nature left them: encumbered with ſtones and buſhes: ſo that ſcarcely a rood of free ſurface, for the ſithe to paſs over, can be found in a townſhip; excepting ſome cold ſpringy plots, which are blown up into a ſort of bog; and, for want of drains, produce little more than ruſhes and other aquatics; much more ſuitable for litter than for fodder. After the ſithe has gone over the free patches, the ſickle is uſed to hook out the remainder from among buſhes, and to clear round and between ſtones, and to ſhave the ſides of hollow ways, &c. until every handful of green herbage be collected, and every part be pared to the quick. Indeed, ſuch is the want of a little hay to keep the yearlings alive through the winter, and to ſupport the cows newly calven, that even the under herbage of tall woods is cut with ſickles, and carried out green to "dry-fields" (a practice ſometimes

applied to the meadow-hay), or ſpread on buſhes to wither! and, when laid up, at all this expence of labour, it is not equal, perhaps, to good ſtraw. Nevertheleſs, the old meadow lands remain in a ſtate of neglect, and the cultivation of graſſes makes little or no progreſs. Yet we may venture to ſay, that one acre of infield land, under proper management, would produce hay of as much value as that which is now collected from the meadows of a plow-gait. The argument held out is, that it is in vain to ſow graſs ſeeds while the ſheep run over the country, in winter and ſpring, as they do at preſent; a good reaſon this, among many others, for putting a ſtop to ſo deſtructive a practice.

The *paſture grounds*, as the meadows, are encumbered with moveable ſtones, and with buſhes which might readily be cleared away, and the depaſturing ſurface be of courſe enlarged. A ſtill greater evil of paſture-grounds, however, is that of over-ſtocking. Even in ſummer, the ſtock are ſtinted; and, in winter, ſtarved; or, if they linger through until ſpring, the effect of this miſmanagement is ſtill ſeverely felt: the graſs being gnawed to the roots, there is nothing left to ſhelter the ſoil, nor any top for the atmoſphere to act upon and ſet the ſap in motion. The firſt ſhoot is, of courſe, retarded; and, when it riſes, is of too fluſh and delicate a nature for ſtarving ſtock; fluxing inſtead of ſupporting them, in the manner effected by a mixture of young and old herbage taken in together at the ſame bite. Even thoſe who are aware of the evil cannot, under the preſent ſyſtem of management, avoid it. The ſtarving ſtock of their neighbours will, in ſpite of attendance, break in upon them; and ſo long as detached ſheelings and intermixed grazings remain, the evils of overſtocking muſt continue to be felt: for, notwithſtanding the wiſe regulations reſpecting the ſtinting of commons and joint grazings, by what is called "ſumming," the evil ſtill remains.

LIVESTOCK. Horſes, cattle, and ſheep, with a number of fowls, and ſome bees, may be ſaid to compoſe the preſent animal ſtock of the Highlands. The fleſh of ſwine is not eaten by the Highlander (a fact worthy of the antiquary's reſearch). Nor are either geeſe or ducks, I believe, reared by the common Highland tenants. Rabbits, even in a ſtate of wildneſs, I have no where obſerved, except in the vale of Athol. Formerly, goats were kept in numbers; but now, a few only, for whey in the ſummer ſeaſon, as an alterative, and to draw company to what are termed "Goats' Whey "Quarters;" places of amuſement, which are now nearly ſuperſeded by the more faſhionable ones of watering places *.

HORSES. What may be termed the true Highland horſe is ſomewhat below the middle ſtature; namely, about twelve or thirteen hands high: the back generally hollow, and the ſides flat, but moſtly wide at the hips; the cheſt deep, the boſom wide, and the legs generally good; the prevailing colour grey, changing early to a white. The Highland horſes travel with ſafety and perſeverance; and, for the Highland roads, whether they lead over rugged or rotten ſurfaces, a better breed would, perhaps, be difficult to intro-

* And, beſides thoſe domeſticated animals, DEER may ſtill be conſidered as a ſpecies of Highland ſtock; many thouſand acres being appropriated to theſe alone. The foreſts of Scotland, as thoſe of England, were formerly numerous. In the Highlands, ſeveral, I underſtand, ſtill remain. The Duke of Athol has one of extraordinary extent on the eaſtern limits of the Central Highlands; and, on its weſtern, lies the foreſt of Mamlorn, the property of the Earl of Breadalbane. This, however, was diſafforeſted ſome years ago, and is now converted into ſheep farms.

The red deer, or ſtag, may be ſaid to inhabit theſe foreſts in the moſt perfect ſtate of nature and wildneſs: cautious and ſhy in the extreme; ſingularly jealous of the human form; eluding, with wonderful effect, the wiles of the ſportſman. A variety of other game are alſo inhabitants of theſe wilds: among the reſt the roe, provincially "ray;" a much more familiar animal than the ſtag, appearing, even in ſummer, in the woodlands and plantations of the vallies, down to the public roads and habitations: nevertheleſs, their averſion to reſtraint is ſuch, that they may be ſaid to be untameable.

duce ; but, as has been mentioned, they are too light for th preſent plow-team. This, added to the great objection which modern ſheep farmers have to horſes on the hills (where great numbers of them were formerly bred), have checked the breeding of this uſeful ſpecies of horſe. Nevertheleſs, in the country at large, the number of horſes ſtill kept may be conſidered as one of its greateſt evils, and muſt remain ſuch while the preſent method of ſupplying it with fuel continues: every villager, and every tradeſman, even of the loweſt order, is under the neceſſity of providing a horſe to bring down his peats; and, in ſome ſituations, the farmers themſelves are obliged to keep an extra number for the ſame purpoſe.

CATTLE. The native breed of Highland cattle, a breed which has been common to the country, I believe, beyond memory or tradition, are ſmall, comparatively with the Engliſh and the Lowland breeds. They are well known in the North of England and in Norfolk, where great numbers are every year fatted on turnips for the London markets, for which purpoſe they rank among the firſt breeds of the iſland ; but, like other well grazing cattle, they are not profitable for the dairy. This valuable breed has been attempted to be improved, by croſſing it with larger breeds, but without ſucceſs. The preſent plan of improving it, or rather, perhaps, of bringing it back to its ancient ſtandard, is much more rational ; namely, that of fetching bulls of the pureſt blood from the diſtricts where the genuine Highland breed is found in its moſt perfect ſtate ; particularly, I underſtand, from the Iſle of Sky. In the Central Highlands, the diſtrict of Rannoch appears to take the lead, at preſent.

The OBJECT OF CATTLE FARMING is principally breeding, the dairy being ſecondary ; though cows and heifers, provincially "queys," are the prevailing ſtock ; very few ſteers, provincially "ſtots," being reared in this diſtrict. For want of incloſures and ſucculent herbage for calves, the

they are ſuffered to ſuck the cows during ſummer; and generally one calf to two cows; the dairy-maid taking the opportunity, while the cows are giving down their milk to their calves, to ſhare the meal with them; and thus obtains ſome milk for the uſe of the family, or perhaps for making a little butter and cheeſe for ſale. In autumn, the barren cows get fleſhy enough for "Martinmas beef," or are ſold, in good condition, at the fairs, or to drovers in the country, to go ſouthward, to be fatted on turnips or other winter food.

In the SUMMER MANAGEMENT OF CATTLE, the cows are kept on the braes, or the roots of the hills, or on the rougher parts of the bottoms of the vallies, tended by children, or women, or men! or, if the contiguous muir, immediately above the head dyke, be of a good quality, they are driven there, in the middle of ſummer, when the hill paſtures are at their beſt, and brought down to milk every evening; keeping them in the houſe all night, to eaſe the drift and raiſe manure. Bringing home milk from cows milked in a diſtant paſture is not the practice of the Highlands. Young cattle (yearlings ſometimes excepted) are kept chiefly or wholly on the hills, during the ſummer ſeaſon.

Formerly, it was a practice, common, I believe, to the Central Highlands, to drive cows and other ſtock to diſtant SHEELINGS, or hill paſtures; where they were kept during ſix or ſeven weeks in the ſummer months. Within the memory of many men now living, the environs of Loch Tay were deſerted in that interval.

The diſcontinuance of this practice is ſaid to have been effected by the introduction of flax and potatoes; both of which require attendance during the ſummer months. The deſtruction of foxes, and the introduction of the black-faced breed of ſheep, may ſerve, ſtill better, to account for its diſuſe: the interior of the mountains can, now, be paſtured with

with ſheep ; whereas, formerly, ſheelings, chiefly, rendered them valuable.

The practice, however, is not yet extinct. In this diſtrict I obſerved one inſtance, in which cows were paſtured and milked, and their produce manufactured at ſome miles diſtance from the homeſtead. In this inſtance, however, cows and ſervants, only, migrated for a few weeks in the middle of ſummer. But in Glen Garry, between Dalwhinnie and Dalnacardoch, at the head of the valley of Athol, I obſerved more than one complete ſheeling: entire families, with their reſpective flocks and herds, gathering in the evening round groups of huts, placed in the wildeſt ſituation.

In winter, cattle of every deſcription are kept in the houſe, and on ſtraw ; except the calves, and the cows after calving. The months of March and April comprize the deſired time of calving.

SHEEP. The breed of ſheep has, during ſome years paſt, been undergoing a change in the Highlands : an alteration which is not yet nearly completed.

Formerly, and I believe from time immemorial, the Highlands, and the entire North of Scotland, were ſtocked with a race of ſheep almoſt as different from thoſe of the ſouthern provinces as goats or deer are from that ancient breed; whoſe fur conſiſted of a ſort of down, over-topped by long, ſtraight, rigid hair, ſomewhat like the coat of the beaver, and other furred animals : widely different from the wool of European ſheep in general. And beſide this diſtinction of coat, there is another characteriſtic difference which marks them ſtill more ſtrongly. The tail, which, in all the varieties of *wooled* ſheep, is long, and covered with wool reſembling that of the reſt of the body, is, in the animal under notice, ſhort, ſlender, tapering, and thinly covered with ſtrong, ſilvery hairs, and not exceeding in ſize that of the deer or the goat. Its face,

too,

too, is covered with ſleek hairs, as that of the deer ; and, like this, it has the eyes prominent.

In every part of the Central Highlands veſtiges of this breed are ſtill evident. On the ſouthern banks of Strath Tay, and between that and Strath Brand, it is moſt obvious. On the banks of Loch Neſs, in the Northern Highlands, I found it nearly pure ; perhaps without any modern admixture of extraneous blood. Theſe are ſmall, remarkably tame, and apparently of a tender delicate frame, as if houſed in the night : a treatment which was common to this ancient breed.

In the Shetland Iſles, the ſame breed of animals remains with little admixture ; and in Denmark, it is, perhaps, in a ſtate of greater purity *. The wools or furs of Aſia, imported into Great Britain, at a high price, for the uſe of the hat-makers, is of a nature perfectly ſimilar to that of the animal under notice.

Notwithſtanding, however, its diſtinguiſhing characters, at preſent, are ſo widely different from thoſe of the ordinary ſheep of Europe, it would be difficult to determine, now, whether the diſtinction has been owing to nature or to art ; whether they are varieties of one and the ſame animal, or diſtinct productions of nature; nor would it, perhaps, be right to attempt it in this General View.

The breed which is now ſupplanting the ancient breed of the Highlands is that which is well known in Scotland by the name of the black-faced breed ; which, on the Southern hills, as well as in the Eaſtern Highlands, or mountains of Brae Mar, is the eſtabliſhed breed. Whether this breed has heretofore travelled northward, from the Morelands of Yorkſhire, where a ſimilar breed has been ſo long eſtabliſhed as to be deemed natural to a heathy or mountainous ſituation, or

* As appears in a Daniſh Lamb, now in the poſſeſſion of the Preſident of the Board.

whether

whether that breed was drawn originally from Scotland, might, perhaps, be eaſily traced upon the ſouthern borders.

The preſent ſtate of the change is various. The ſheep farmers, having been aſſiduous to fetch rams from the beſt ſources of the breed, have ſome of them nearly completed the change; while the neglected flocks of the ſmall tenants are not yet half way through it.

The advantage of the modern over the ancient breed are their being ſtronger, and better able to travel from home, and to live in the open air through a mild winter, and ſome of them to ſurvive a ſevere one without fodder. The market for them is likewiſe better: the Yorkſhire graziers refuſe the old ſtock; and even the modern, if too deeply tinctured with it.

Their great diſadvantage is the coarſeneſs and uneven quality of their wool. The buttocks of a black-faced wedder are frequently as coarſe, and as ſhaggy, as thoſe of a he-goat.

With a view to obviate this evil, without loſing the good effects of an active hardy breed, the ſheep of the Cheviot Hills have recently been brought into the diſtrict, by way of experiment: and the trial has this far been much in their favour. Whether or not it may be right to ſtock the Highlands wholly with the Cheviot breed, it ſeems to be evidently ſo, to keep as many as will ſupply the Highland houſewives with fine wool: an article which has hitherto been fetched into the diſtrict, at an unneceſſary expence. With regard to a market for a large number of theſe ſheep, it is more than probable that, when the Yorkſhire graziers are convinced of their being the true Cheviot breed, and not the old white-faced ſtock of the Highlands, they will not heſitate to purchaſe them.

In the MANAGEMENT OF SHEEP, in the Central Highlands, nothing ſuperior can be expected, not even in the practice of the

the ſtore farmers ; for, even to them, ſheep farming may be called a new thing ; and, among the owners of petty flocks, ſtill leſs propriety of management muſt be looked for.

The FLOCKS of the ſtore farmers are ewes or wedders : ewes, where there is good wintering ground ; wedders, where this is wanting.

To the EWE FLOCKS the rams are put about Martinmas, which is about the time they come down from the hills : the lambs, of courſe, drop the latter end of April, before they return : or ſometimes, if the ſpring be early, thoſe who have taken the ram late will ſtray away to the hills to lamb ; in which caſe, though the lambs are ſtronger, they are obnoxious to foxes, eagles, and other birds and beaſts of prey. The ewes are thrown up at four, five, or ſix years old, and moſtly ſold to South country drovers.

The WEDDER FLOCKS are bought in when lambs, and kept until they be three years old ; when they are ſold to the Yorkſhire graziers : chiefly to thoſe of Craven.

The practice of TARRING, ſmearing, or dreſſing with tar and greaſe, has followed the black-faced breed of ſheep into the Highlands ; where, I believe, it was not known before their introduction. The ſtore farmers now ſmear all, except the aged wedders ; at the expence of about three-pence a-head. The prevailing notion ſeems to be, that it keeps them warm and healthy, and enables them the better to withſtand the inclemency of the climate, and the hardſhips they are doomed to undergo. It certainly adds conſiderably to the weight of the wool ; which, in the inſtances I have obſerved, is daubed over in an unworkmanlike manner ; and ſheep, in the ordinary practice, not being waſhed previous to the "clipping," the load of dirt it collects muſt be conſiderable.

In the PASTURE MANAGEMENT OF THE SHEEP farmers, the wintering grounds are kept free for them from the time they go up to the hills until a fall of ſnow, or a want of food,

drives them back to the vallies; where they remain during winter. If, however, the graſs fall ſhort, or if the winter prove extraordinarily ſevere, no aſſiſtance or relief whatever —no hay, green food, furze, broom, or other ſuccedaneum— is provided; even by the ſtore-maſters! If, when the kept graſs is gone, or covered too deeply with ſnow to be ſcraped to, the heath and bent cannot afford nouriſhment enough to keep them alive until the return of ſpring, they die, or are driven down into the Low Country—provided they can travel ſo far!

If, in the practice of men of intelligence and capital, and whoſe leading object of life is the management of ſheep, we find a want of forecaſt, what can be expected amidſt the indigence and indolence of the petty tenants; than among whom, we may venture to ſay, this moſt valuable animal was never found in a lower, more pitiable ſtate of exiſtence. So far from having any proviſion made for their winter ſubſiſtence, or the more neceſſary relief for the ewes when they moſt require it, in the early part of ſpring, the herbage of ſtubbles is aſſiduouſly eaten off, as the corn is cut; horſes and cows are ſeen teddered among the ſtooks, as if to prevent the ſheep from getting a little forward in fleſh, to render them able to withſtand the inclemency of winter. By the time the corn is out of the fields, ſo that the ſheep can come down into the vallies, they have little more than a bare paſture to come to: yet this bare ill-herbaged paſture is all they have to ſupport them during the ſix winter months, let them be ever ſo inclement! How they are enabled to drag life through a moderate winter is a matter of ſome ſurprize: how an individual eſcapes deſtruction in a ſevere one, is more aſtoniſhing.

Theſe obſervations are made in ſtronger language, inaſmuch as they are intended to rouſe equally the proprietor and the occupier, and to induce them to join in the neceſſary work of eſtabliſhing a more rational courſe of management.

IMPROVE-

IMPROVEMENTS

PROPOSED FOR THE

CENTRAL HIGHLANDS.

THE foregoing ſketch of the preſent practice of this department of the Highlands may ſeem to preclude the neceſſity of making any apology for offering propoſals for its improvement. I will therefore proceed to ſet down what I conceive to be the principles of improvement applicable to that diſtrict; under a conviction that it ſeldom fails of proving ſerviceable to a country to agitate the means of its advancement.

PRINCIPLES OF IMPROVEMENT.

1. Permit the preſent inhabitants to remain in the country; and endeavour to make it the intereſt of every one to aſſiſt in its improvement.

2. Uſe every means of ſupplying, by art, the natural defects of climature.

3. Reclaim the ſoil from its preſent ſtate of rudeneſs; and endeavour to render every part of it productive.

4. Adapt the productions (whether vegetable or animal) to the ſoil, the climature, and the preſent number of inhabitants, taken jointly.

And 5. Let the ſubordinate branches of improvement grow out of thoſe leading principles; which I ſhall conſider as the groundwork of theſe propoſals.

INHABITANTS. The argument which has been held, about whether the Highlands ſhould be inhabited by the human ſpecies or by ſheep, can have no ſufficient ground, until the country be rendered fully productive, and fit for the ſupport of either. At preſent, it may be ſaid to lie in a ſtate of wildneſs, not unſimilar to that of the wilds of America; and certainly, the proper time for retrieving it from a ſtate ſo diſgraceful to a civilized nation, is, *while there are people in it*. For ſhould the Highlands of Scotland be once depopulated, it might be found difficult to re-people them. The preſent race of inhabitants, it is true, have an extraordinary attachment to their *native ſoil*; but this is a ſpecies of attachment which *cannot* be formed by a ſtranger; whom it might be found difficult to induce, hereafter, to take up his abode in a depopulated, neglected, mountainous country; unleſs he were led into it by exceſſive encouragement. Hence, to depopulate the country, in its preſent ſtate, would not only be cruel, but impolitic.

CLIMATURE. The natural defects of the climature of the Highlands are,

The ſeverity of winter,

The backwardneſs of ſpring,

The lateneſs of harveſt.

Soften the ſeverities of winter, by ſheltering the lower farms with ſkreen plantations, and by dividing them into ſmall incloſures, with well trained hedges. Protect the wintering grounds of the ſheep farms, by ſimilar plantations; raiſing furze, broom, juniper, or other evergreen ſhrubs, within the ſhelter of thoſe plantations; and keep the more expoſed parts of the wintering grounds in a full bite of herbage, previous to the approach of winter.

The

The ſame precautions will tend to guard againſt the backwardneſs of ſpring; which, on the arable farms, and by the helps of modern huſbandry, might be wholly counteracted. Drain cold moiſt ſoils, and keep part of the paſture grounds in full bite, for ſpring food. On the arable grounds, cultivate the early graſſes and legumes. In the ſpring of 1793, the ſown graſſes of the farm grounds of Taymouth would have fatted a bullock, while ſtore cattle and ſheep were ſtarving on the wild lands of the ſurrounding country. In the middle of May, a plot of cultivated herbage might have been ſeen at ſome miles' diſtance; as a brilliant made the more conſpicuous by the baſeneſs of the foil. By turnips, rape, cabbages, potatoes, the ſeverities of winter, and the backwardneſs of ſpring, would be equally guarded againſt; as the lateneſs of harveſt might, by keeping the land in a high ſtate of cultivation: thus preparing it for early ſowing; by which the diſadvantage might be leſſened, or the evil removed.

Soil. The intrinſic quality of the ſoil of the vallies has been ſaid to be almoſt invariably good. The improvements wanted are thoſe of freeing it from obſtructions; and of relieving it from ſurface and under waters, in particular places.

The extreme ruggedneſs of the ſurface has alſo been mentioned; and what has hitherto been done, to remove this natural defect, may be ſaid to have only added to the difficulty of doing it completely: the ſtones which have been gathered off the ſurface of the little patches of arable lands—provincially "fields"—have been thrown into heaps or ridges, without regard to the form or regularity of the ſcanty plots thus cleared. The plow can rarely paſs a hundred yards in a ſtraight line; often not twenty; except in the haughs or water-formed lands, where fields of two or three acres are ſometimes ſeen.

It is not meant that the rugged ſurfaces of the Highland vallies ought to be, or can be cleared and levelled in ſuch a manner as to be able, in all caſes, to lay them out in large ſquare incloſures, or with regular ſtraight fences on every ſide of them. But, were the operations of fencing and underdraining to be carried on with thoſe of clearing and levelling, it is evident that the preſent fields might be greatly enlarged, and their outlines be rendered infinitely more regular, and better adapted to the buſineſs of aration, than they are at preſent: and it is equally evident, that, were the arable lands freed from obſtructions of the plow, to the depth of ten or twelve inches, and the graſs lands to that of five or ſix inches, they would be ſtill better adapted to the purpoſes of huſbandry.

The practicableneſs of ſuch improvements is evinced in a variety of inſtances. At Taymouth, it appears upon a large ſcale; both in the haugh lands, and on the faces of the braes; and, in both caſes, the natural ruggedneſs of their ſurfaces rendered them difficult ſubjects of improvement: nevertheleſs, the reclaim may be ſaid to be completed; eſpecially on the haugh lands; which, before the operation, were not worth, perhaps, more than half a crown to five ſhillings an acre; but which would, now, be eſtimated at five and twenty, in almoſt any part of the iſland; and although the expence of improvement would no doubt be great, as that of all improvements carried on by men of large properties themſelves muſt be, yet I apprehend the value of the improvement, even under this diſadvantage, greatly overbalances it. Indeed, the preſent ſurfaces of the entire park and grounds of this magnificent place are more or leſs the creations of art; and they now ſhow, in the moſt ſtriking manner, what may be expected from a general improvement. The old graſs lands of Taymouth are equal, in ſoil and herbage, to the firſt claſs of meadow and paſture

paſture lands of the iſland. In the ſpring and ſummer of 1793, I made a collection of the natural herbage of theſe grounds, and found them to contain all the more valuable graſſes and legumes of the beſt Engliſh meadow and paſture lands; to which, on a par, they are equal in productiveneſs.

Inſtances on a ſmaller ſcale, and more applicable to theſe propoſals, may be noticed with propriety. The acres, pendicles, or ſmall plots, of the villagers of Kenmore, ſhow what even villagers, without regular team labour to aſſiſt them, are able to effect. Difficulties yet greater have been overcome by M'Dougal, of Leeter-ellan (a man entitled to the praiſe and encouragement of Highland proprietors), who, with every difficulty of ſurface to encounter, has, under proper encouragement, reduced to a ſtate of aration a rugged ſtoney ſteep: fitter, it is true, for planting than for huſbandry; but it proves the more ſatisfactorily, that, under ſuitable encouragement and due exertion, a ſmall proportion of the Highland vallies would be found too difficult to be reclaimed. And the progreſs of improvement, in its firſt ſtages, now to be ſeen in the acres of Kinnel, ſhews that even a ſtoney moory ſoil, of the very worſt quality the Highland vallies contain, is not too formidable for a Highlander to aſſail, provided he have any certainty of enjoying the fruits of his toil.

Productions. While the country underwent the work of reclaim, the requiſite productions would be in a great part given; and a general plan of ſheep farming could not take place during that time. It may, nevertheleſs, be right to conſider whether ſuch a plan ought to be adopted, as the reclaim ſhall be accompliſhed; and whether, in the end, the Highlands, as the Cheviot Hills, ſhould be wholly ſheep paſture.

The Highlands and the Cheviot Hills are very different productions of nature. The Cheviots are a congeries of tall hillocks, without regular vallies, and with little or no bottom lands,

lands, between them. The Highlands, on the contrary, are formed of long ridges of mountains interſected by extended vallies, ſome of them of conſiderable width; containing lands well fitted, by ſoil and ſituation, for arable lands of the firſt quality: and, even ſuppoſing a general plan of ſheep farming to be practicable, it would perhaps be found the moſt profitable to keep theſe lands under a courſe of cultivation.

Nevertheleſs, let us examine the propriety, and even the practicability, of converting the entire Highlands of Scotland into ſheep farms. Where could be found a market for ſuch a number of ſheep as the entire Highlands would produce? Hitherto, the demand has been greater than the produce; and muſt continue to be ſo, *until the country be ſtocked.* Young ſheep now travel northward from the Central Highlands, and from the ſouth of Scotland; but, whenever the rage of ſtocking ceaſes, though it may happen before the entire Highlands be completely ſtocked, ſheep of every age and ſex will, in the ordinary courſe of things, return in myriads, and overflow the central and ſouthern markets; and, unleſs ſome new market could be opened in England (a thing which under the preſent ſpirit of breeding ſheep there, is not likely to happen), the Highlands would be under the neceſſity of returning to the corn and cattle ſyſtem; or, for want of inhabitants to carry it on, would lie waſte, until a new race of natives could be reared.

On the contrary, the joint productions of corn, cattle, and ſheep, appear moſt likely to give permanency and certainty to the proſperity of the country; the proportion being regulated by the circumſtances of the time being.

It remains to be conſidered how far, under the circumſtances of the preſent day, ſheep farming is admiſſible in the Central Highlands, and what are the deſcription of lands which ought to be appropriated to ſheep.

The culturable parts of the vallies are beſt adapted to cattle and corn, the hills for the ſummer paſture of ſheep; which, however,

however, require the ſhelter of the vallies in winter; and the hills, on the other hand, are valuable to young cattle in the ſummer ſeaſon. Again, the brae faces, or ſteeps of the ſides of the vallies, are better adapted to ſheep than to cattle; whoſe tread not only deſtroys the herbage, but, by breaking and looſening the ſoil, renders it moſt liable to be waſhed away by heavy rains: Beſide, the ſwells and protuberances of the braes are leſs liable to be buried under ſnow, and, when covered by a ſlight coat of it, are more conveniently laid bare by the ſcraping of the ſheep, than are level ſurfaces; thus appearing to be ſingularly adapted to the uſe of wintering grounds for ſheep.

Hence it may be put, that as many young cattle as are bred in the vallies ſhould be grown upon the hills, in ſummer; and that ſo much of the hill paſture as is not wanted for young cattle, ſhould be ſtocked with ſheep; which, in their turn, ought to be allowed as much of the glen-heads, braes, and roots of the hills, as will ſupport them, during the ſeverity of the winter months: thus rendering the hills and the vallies, as perhaps they ever ought to be, ſerviceable to each other. In the narrower glens, the quantity of culturable ſurface is ſmall, in proportion to the hill lands and braes, and here the proportion of ſheep would be large to that of cattle; but, in the ſtraths, and on the broad margins of lakes, cattle would be numerous, and fewer ſheep be required.

Thus we have two diſtinct ſpecies of farms; one adapted to cattle and corn, the other to ſheep only; and, perhaps, a third might be found convenient, for young cattle and wedder ſheep, in the interior parts of the mountains *.

By thus adapting the productions to the circumſtances of the country, and by laying out eſtates in ſuch a manner as to

* In ſome ſituations, RABBIT WARREN might perhaps be a profitable ſpecies of farm. The fur would probably be of a ſuperior quality, and, in the ſouthern Highlands, markets might be found for the carcaſes.

keep the different ſpecies, as well as the individual farms, diſtinct from each other, every man would be kept to his own ſeparate employment, and be the beſt enabled to do juſtice to the charge he may have undertaken.

I now proceed to the ſubordinate parts of improvements.

LAYING OUT ESTATES. Large eſtates are moſt eligibly divided into officiaries (already noticed) agreeably to natural or permanent lines, or by arbitrary ones, better adapted to the circumſtances of the eſtate.

The firſt ſubdiviſion of the officiaries is into woodlands and farms: into portions of ſurface adapted to arable or paſture land; and into thoſe which are fit for neither; adding, however, to the latter ſuch ſlips of culturable land as may be requiſite for ſheltering plantations: thus appropriating to huſbandry, whatever will repay the expence of improvement, as arable or paſture land; and ſetting apart for woodland, whatever is unfit for the plow or paſturage; with ſuch addition as may tend to render the arable and paſture grounds of the greateſt value: endeavouring, by theſe, and every other means, which experience, and ſome ſtudy of the diſtrict to be divided, would not fail to point out, to apply every portion of ſurface to its proper uſe.

LEASES. Countries have been generally, it is probable, reclaimed from the ſtate in which nature and circumſtances had placed them, by proprietors; by men who acquired a property in them, by the act of reclaiming them. In America, the work of reclaim ſtill continues to be carried on under theſe circumſtances. And, even in a country which may be ſaid to have paſſed the firſt ſtages of the work, it cannot be expected that any prudent man, who has the liberty of choice, would ſet about finiſhing it, without a certainty of poſſeſſion, until he has had a fair chance of retrieving his labour and expences.

Hence,

Hence, in effecting the improvement of the Highlands, leaſes become eſſentially neceſſary; and it would be right, perhaps, to grant them in ſuch a way, as to give each man full poſſeſſion of his holding: impoſing no other reſtrictions than what would direct him to his own intereſt; and, at the ſame time, ſecure the reverſion of the improvement to the eſtate, at the termination of the leaſe.

The length of theſe leaſes ought to be in proportion to the quantity of improvement required: as from ten to thirty, or a greater number of years.

COVENANTS. It is not intended, in this place, to detail the heads of leaſes ſuitable to the ſeveral deſcriptions of farms propoſed; but to offer a few hints reſpecting the arable farms.

It would, I am of opinion, be found the moſt profitable to the tenants and the moſt beneficial to the eſtate, to keep the cultivated lands, in corn and graſs alternately; as three arable crops; namely oats, a fallow crop (or fallow), and barley; to be ſucceeded by three or more years' produce of cultivated graſs; and it might be right to reſtrict the tenants (in the outſet at leaſt) from taking two white or grain crops ſucceſſively; in order to correct the preſent ſyſtem of outfield management, and to give laſting productiveneſs to the infield lands.

Another reſtriction I ſhall propoſe with diffidence; as it reſpects the flax crop; a ſpecies of produce, which, under the preſent plan of management, is eſſential to that ſhare of proſperity which the country at preſent poſſeſſes. Flax, however, is a well known exhauſter of ſoils; and all I mean to propoſe is, that it ſhould be confined to freſh lands, in which it moſt delights; and that it ſhould not be grown more than twice on the ſame piece of ground.

Prohibiting ſickle meadows, the diſgrace of the Highland huſbandry, might haſten the tenants in the work of clearing:

And aboliſhing the tending of cattle (a practice not leſs

diſgraceful) after a certain number of years in poſſeſſion, might aſſiſt in forwarding the buſineſs of incloſure.

Other reſtrictions might, no doubt, be brought forward, to benefit the tenant in the firſt inſtance, and the eſtate in the end.

MISCELLANEOUS HINTS RESPECTING THE IMPROVEMENTS OF THE HIGHLANDS.

The great difficulty of INTRODUCING IMPROVEMENTS in Agriculture, among men prejudiced in favour of ancient practices, is that of ſetting them examples, in ſuch a way as to convince them, that certain profit accrues, *to men of their own claſs*, from the alteration. The improvements of men of fortune, though ever ſo great and evident, are paſſed as matters in which they have no concern.

Upon the Highland eſtates, and upon any eſtate divided into officiaries, an eligible mode of introduction ſeems evident. Make choice of a GROUND OFFICER who is capable and willing to ſet the requiſite examples; no matter where he is found, nor what encouragement, within reaſon, is given him. Set out a ſuitable farm near the centre of his officiary; and fix him there, by ſuitable inducements. Whatever excellent required to be introduced, and whatever new to be tried, furniſh him with the means of executing the deſign. If an improvement in the breeds of ſtock be required, furniſh him with a male, and perhaps females, of the beſt quality. If a new ſpecies or variety of crop, a new implement, or operation, be thought fit to be tried, conſide the trial to him; and if it ſucceed, let him ſhew the reſult to his neighbours, and inſtruct them, if deſired, in the due culture, performance, or uſe of it. Thus from the center of each officiary the rays of improvement would expand; while, by furniſhing the ſeveral officers with the ſame means of improvement, an emulation among them would give each attempt a fair opportunity of ſucceſs; and,

and, by their joint efforts, even the largeſt eſtate might be rapidly improved.

It would be difficult to enumerate every improvement which the Highlands are capable of receiving, nor is it neceſſary to attempt it in this Sketch: as one ſtage of improvement ſhall be reached, the requiſite objects of the next will be more diſtinctly ſeen, than they can be at the outſet: nevertheleſs, I will here put down ſuch particulars as have ſtruck me in examining the different parts of the diſtrict, and in the ſeveral tranſactions and communications which I have had with the inhabitants of every claſs.

Upon the LOWLAND FARMS, the four-fold operation of CLEARING, LEVELLING, DRAINING, and FENCING, ſhould go on together; that no carriage may be waſted, nor other labour be loſt.

As incloſures are completed, and the ſoil freed plow-deep, eſpecially if they conſiſt chiefly of the foul old arable lands, they ſhould be completely FALLOWED; to free the old lands from weeds, and to mix and expoſe the freſh mould of the intervening ſlips and patches of newly cleared ground. This done, the reclaim may be ſaid to be completed. Upon the larger plots of freſh ground, potatoes would preclude the uſe of the fallow.

In a recluſe diſtrict, every effort ſhould be made to procure a conſtant ſupply of MANURE. Lime ſhould be uſed freely on freſh land. Marl ſhould be ſought for. Perhaps the black mould of the valleys—a kind of baſe peat mould which not unfrequently occurs—may be found uſeful as a manure; either digeſted in heaps alone, or in compoſt with lime, or burnt into aſhes, and ſpread on the land as a top-dreſſing; in which intention the moſſes and deeper black ſoils of the hills, burnt in heaps or in kilns, may be likewiſe found of eſſential ſervice. Fatting aged cows on oil-cake, if it can be procured, would raiſe a moſt valuable ſpecies of manure.

Keeping

Keeping dairy cows in the houſe, in ſummer, on clover or other green herbage, would be found to raiſe a great quantity of dung, and, before the incloſures be completed, would be found a convenient mode of treatment. Try the watering of graſs land as a manure; and, eſpecially, carry off the waſte waters of the dung yard, by means of rills,—which may almoſt every where be commanded,—over graſſy ſlopes, formed to receive them. Whether or not the waters of the vallies be found uſeful as a manure, they may certainly be uſed with good effect, in a dry ſeaſon; and, in levelling and adjuſting the ſurface, this uſeful piece of huſbandry ſhould be held in view. Sod-burning the rough paſture grounds, to be cleared and broken-up, might be found highly eligible.

With reſpect to improvements of CROPS, ray graſs and the clovers, inſtead of ſorrel and other weeds, ſhould be made to occupy ley grounds. Rape ſeed, if it will ſtand the ſpring froſts, bids fair to bring in an immenſe profit to the Highlands, for a courſe of years; I mean, until the freſh grounds be gone over with this valuable but exhauſting crop. If the climature of the Highlands ſhould be found unfriendly to the ſeed of the rape, its herbage would aſſuredly be a valuable winter and late ſpring food for cattle and ſheep.

In regard to STOCK, little more could be done, in the outſet, than improving, to the higheſt pitch, the preſent breed of cattle; which, ſo long as the young ſtock ſhall be reared on the hills, cannot perhaps be changed for a better. Where the incloſures are ſufficiently effected, long-wooled ſheep may be found profitable to the farmer; and their wool be found uſeful in the houſehold manufactures of the country.

Upon the HILL FARMS, the improvements would be few. Nevertheleſs, every experiment ſhould be tried, and every expedient attempted, to improve the paſturage of the ſheep farms. Burning off the heather of the black parts ſhould be the firſt; as it would have the moſt immediate effect. If

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any improper clauſe in the game law reſtrains this moſt valuable branch of improvement, the Board of Agriculture could not uſe their intereſt with parliament more profitably than in effecting the abrogation of ſo impolitic a reſtriction. In ſuch an extended tract of mountain, as the Highlands of Scotland, there is little danger of extirpating the breeds of moor game. By repeatedly burning, and paſturing the burnt ſurface hard with ſheep, it is probable that many hundred thouſand acres, now covered with heath and leſs profitable plants, might be changed to green paſture grounds of many times the preſent value.

In the dips and hollows of the lower hills there are plots of tolerable ſoil; which, if incloſed with ſod-dykes (in the manner of the rabbit warrens of Yorkſhire), ſod-burnt, and ſown with rape, either for its ſeed or for ſheep feed (as circumſtances and ſome experience would beſt point out), and at the ſame time with graſs ſeeds, a ſward of a good quality might, in probability, be obtained; beſides, perhaps, ſome immediate profit by the improvement.

If proper ſubjects were choſen, where fertilizing water could be had, much benefit might accrue from watering the hill lands thus improved. Alſo it might be right to try the effect of compoſts; as thoſe of lime, earth dug from pits of native ſoil, peat earth, &c. &c. ſpreading them on natural or improved ſurfaces. The ſteadings of ancient ſheelings ſhow, demonſtrably, that the hills are *capable* of improvement.

The WINTERING GROUNDS might be improved by draining marſhy parts, dangerous to ſheep in ſpring; as well as the moory bogs, in which they are not unfrequently loſt in winter; eſpecially when theſe tender moſſes have been covered with ſnow, before the ſurface had been hardened enough by froſt to bear the ſheep. Here, alſo, much might by done by clearing; eſpecially from briars and bruſh wood; while by ſod-burning and rape, a moſt valuable ſpecies of improvement might, perhaps, be effected. By conducting

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ſurface-waters off the ſteep faces of the braes, through the means of trenches directed ſomewhat diagonally acroſs them, inſtead of ſuffering it to tear off and carry down the ſoil, as they do at preſent; covering up the rocks thus bared, and the gutters thus torn open, with the ſoil raiſed in making the trenches; a great increaſe of paſturing ſurface would be obtained.

Cultivating plots of furze, broom, juniper, &c. by ſod-burning and rippling the ſurface, or by other more eligible means, could not fail of proving beneficial upon the wintering grounds of a ſheep farm. By means of thoſe as a reſource in the deepeſt ſnow, when the herbage of the braes were buried too deep, and too evenly, to be uncovered by the ſcraping of the ſheep; by keeping the moſt expoſed parts of the braes in full herbage, for leſs general coverings of ſnow; and by reſerves of rape, for the ſeaſon of lambing; even ewe flocks might be ſupported through the winter, on ſome degree of certainty, without dry fodder; and without being left to the uncertainty of ſeaſons, and the mercy of the winds and weather, as they are at preſent.

Beſide the claſs of improvements which belong more particularly to the tenants, and might be termed improvements of farms, there are more general improvements proſecuted, not for the tenants individually, but for the accommodation and benefit of the whole; operating as general IMPROVEMENTS OF THE ESTATE on which they are made.

Such as mutual EXCHANGES of intermixed properties; thereby accommodating the tenant; and, of courſe, encreaſing the rental value of each ſeparate eſtate.

General EMBANKMENTS, againſt river and lakes in time of floods, might frequently perhaps benefit, not only ſeveral tenants, but different proprietors.

BOUNDARY FENCES, between proprietors, and between farms, are at leaſt objects of proprietors' attention.

ROADS.

ROADS and common DRIFTWAYS, for the better accommodation of tenants, may be ranked among improvements; as, by increaſing the conveniency, they add to the value of the eſtate.

BUILDINGS erected in a plain, ſubſtantial, and proper manner, become, in the end, a ſaving to an eſtate. In the Highlands, it would, perhaps, be found right for the proprietor to raiſe the ſhells, and ſet on the roofs; leaving the tenants to finiſh them in their own ways. Subſtituting ſlates or tiles, in the room of "divot," thatch, and "feal," would be an improvement of ſome value.

FUEL is eſſential to huſbandry, and may be deemed a tax, or burden, neceſſarily adherent to landed eſtates; whoſe rent rolls are, or ought to be, affected by the requiſite expence of fuel: thus, if the expence of fuel, upon a given farm, can be reduced from ten to five pounds, the tenant can afford to pay five pounds a-year additional rent; and every prudent man, when he makes an offer for a farm, has an eye to the expence of fuel; which upon ſmall farms, as thoſe of the Highlands, may bear ſome conſiderable proportion to the rent of the land.

It is not, however, the actual coſt of fuel which is a grievance in the Highlands; as in no other part of Great-Britain, perhaps, is fuel ſo *cheap*. It is the uncertainty of procuring it, and the mode in which it is at preſent procured (as interfering with the works of huſbandry, in the moſt eſſential ſeaſon), which call for the attention of proprietors: nor is it the accommodation of the tenants alone, but the future ſtate, and perhaps the exiſtence, of the ſource of Highland fuel, which demands attention.

Seeing the preſent inconveniency, and the probable conſequence, of the preſent mode of ſupplying the Highland tenants with fuel, I paid the ſubject more than ordinary attention; and I am of opinion, much may be done towards reducing the

ſupply of fuel to a degree of certainty; and of rendering it perpetual.

To enter into a detail of this propoſed improvement is not requiſite here; it may be proper, however, to convey to the Board a general idea of the principle on which it hinges.

At preſent, every man, whether farmer, crofter, cotter, or villager, manufactures and fetches home his own peats. Each little diſtrict has its ſeparate moſs, or peat bog; and each individual his ſeparate pit: thus over-running the entire moſs, and waſting, perhaps, more than is brought away. The moſſes generally lie at three to five or ſix miles from the habitations, and at a great elevation above them; with intolerably bad roads, on the faces of the ſteeps; up which each family has to climb, repeatedly, to "caſt," or cut out, and to "ſet," or dry, his peats; and down which they are brought; ſometimes on horſeback, ſometimes in baſkets ſet on ſledges or "ſlipes," and always in ſmall parcels; every man bringing down his own; through which means the country becomes burdened with an unneceſſary number of horſes.

Thus, in a favourable ſummer, the inconvenience and expence of labour and time are conſiderable; in a wet ſeaſon, they are increaſed; and in very bad years, the whole is ſometimes thrown away; and this, perhaps, after having done irreparable injury to the harveſt. The conſequent diſtreſſes are neceſſarily great. Some winters, the roofs of buildings have been burnt as fuel: and in others, the whole country may be ſaid to have been reduced to aſhes, through the preſent uncertain means of ſupplying it with fuel.

The remedy appears, to me, to be certain and eaſy. Leaſe off the moſſes to PEAT MAKERS, and eſtabliſh manufactories of peats as of bricks and tiles. Erect ſheds, for the purpoſe of finiſhing the drying with certainty; and convey them down into the vallies, at the leaſt poſſible expence; (whether it be

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by horſes or by machinery) preparing ſtore ſheds there, large enough to contain, at leaſt, half a year's conſumption.

The environs of lakes, provided proper moſſes were pitched upon, would be moſt aptly ſupplied by the means propoſed; as, by boats, peats might be delivered within a few hundred yards of almoſt every habitation; and manufactories, of almoſt any deſcription, might be amply ſupplied with fuel; the want of which, at preſent, may be, and is, conſidered as an inſurmountable bar to their eſtabliſhment, upon any extent of ſcale, in the Highlands.

In a country where extraneous MANURES cannot eaſily be obtained, it behoves the proprietors of eſtates to deviſe, and put forward, every means of ſupplying the defect, by internal productions. Hence, perhaps, eſtabliſh ſale lime-kilns for the uſe of the ſmall tenants; and try the burning of lime, with faggots of furze, broom, bruſh-wood, or the weedings of plantations; and the reduction of limeſtone, by mills; and, perhaps, the preparation of aſhes for ſale, as a manure.

Eſtabliſhing SHOPS, at ſuitable diſtances, for the ſale of FIELD-SEEDS, as ray-graſs, the clovers, turnip, rape, &c. might aſſiſt much in diſperſing them the more readily among the tenants.

Eſtabliſhing MILK FARMS, in the neighbourhoods of villages at leaſt, would tend to leſſen the number of what are called "cows holdings"—namely ſummer paſturage, and winter fodder, for cottagers' and villagers' cows; a ſource of much inconvenience in the management of a Highland eſtate: beſides taking off the attention of workmen and trades-people from their ſeveral vocations; and incurring a waſte of keep. A given number of cows, in the hands of one profeſſional man, would be kept at leſs expence, both of attention and food, than the ſame number in the hands of as many ignorant individuals; beſides their produce being more conſtant, and more regularly diſtributed.

Encourage COMMON CARRIERS, and others who will perform team labour for hire; with the intent of leſſening the number of horſes, which are at preſent a juſt grievance and a great loſs to the country.

Perhaps it might be found uſeful to fix regular MARKETS in different parts of the Highlands; which are, at preſent, from Crief to Inverneſs, more than a hundred miles, entirely deſtitute of ſuch meetings; ſome few fairs, provincially "markets," excepted. Beſides being uſeful in the interchange of commodities, and eſpecially in giving a regular ſupply of meal, they might aſſiſt in circulating information, and in wearing off prejudices. At the commencement, once a month might be ſufficiently frequent.

Laſtly, and moſt aſſiduouſly, ought the Highland Proprietors to endeavour to plant, in one or more ſituations of the Central Highlands, a ſuitable branch of the WOOLLEN MANUFACTURE; that the ſheep farmers may have a certain and *ſafe* market for their wool; and that there may be, in the growing increaſe of the manufacture, an apt aſylum for the children of thoſe who have aſſiſted in reclaiming the country.